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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,206	06/25/2004	Yuriy Pavlovich Skakunov	04331/HG	9313

1933 7590 05/16/2007  
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

MAIL DATE	DELIVERY MODE
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05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/500,206

Applicant(s)

SKAKUNOV ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The restriction requirement as set forth in the Office action mailed on February 13, 2007 is withdrawn in view of applicants' response on March 12, 2007 which is persuasive.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

The abstract of the disclosure is objected to because of the inclusion of legal phraseology often used in patent claims such as "comprises" in lines 9, 11 and 16; and "comprising" in lines 18 and 21. See MPEP § 608.01(b).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

a). Claims 2-5 are incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural

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connections. See MPEP § 2172.01. The omitted structural cooperative relationships are the positive connections, for example, of the discharge main and control instrumentation relative to other elements in the structure.

b). It is unclear whether the claimed "ejector vacuum chamber" (a single device) is the same or different as the initially recited "an ejector nozzle" and "vacuum chamber" (presupposing for two separate devices)? See claim 1.

c). The inconsistent use of terminology in the claims is improper. For examples Only:

- 1). "hydrocarbon liquid mixture" in claim 1, line 3, as opposed to "raw liquid mixture" in lines 4-5; and
- 2) "the exhaust ejector in claims 4 and 5 as opposed to "the hydraulic /gas ejector in claim 2.

d). The claimed "the nozzle", "the front end wall", "the counterpressure regulator" and "the rear end wall" all recited in claim 2 lack proper antecedent supports.

e). The term "latter", recited e.g., in claim 2, should be replaced by the specific structure(s) to avoid ambiguity in the claims.

f). The claims or at least part of the claims are recited in passive rather than active steps. See, e.g., the limitations recited after the "wherein" clause in claim 1.

Claims 2-5 are objected to because the claimed "is embodied" and "besides" should be deleted as being superfluous; and the use of a slash such as "hydraulic /gas ejector in claim 2 is improper.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Popov (6,277,247) or Applicants' disclosure of admitted prior art with or without Tsegelsky (6,086,721) or Newton (3,701,264).

Applicants admit at page 2, lines 8-13 that "the closest to the claimed method for multi-component mixtures processing in its technological content is the method of vacuum distillation of hydrocarbon mixtures (crude oil, petrol, etc.), comprising pressure feeding of the incoming liquid mixture into the nozzle of a liquid/gas jet device (hereinafter, a jet device) and discharging said mixture into a vacuum chamber (RU 2087178, IPC C 10 G 7/06, 1997-08-20)"; and further admit at page 1, lines 11-13 A known method for processing of petrol fraction comprises its separation into light and heavy fractions, reforming of the light one at elevated temperature and pressure 0.5 to 2 Mpa" (falling within the claimed pressure).

Popov discloses basically similar method as above. See the claims at cols. 5-6; and Fig. 1 of the drawing. Applicants' admission or Popov differs from the claimed invention in that claim 1, for example recites "wherein... a counterpressure is generated providing for emergence of a pressure surge in an ejector vacuum chamber with avalanche condensation therein of a gaseous component of the two-phase flow". However, providing a counterpressure regulator with condensation of the gaseous component is known in the art as taught e.g., at cols. 3-4 and col. 6, lines 18-52 of Tsegelsky, or at cols. 4-5 of Newton. To incorporate the known teachings of applicants or Tsegelsky to Popov's process/method would have been obvious to one of ordinary skill in the art so as to derive the advantages disclosed, inter alia, at col. 3, lines 61-64 of Tsegelsky.

Claims 2-5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- a). Olausson et al discloses an evaporator means and method.
- b). Abosimov et al and Popov et al both disclose a distillation apparatus with ejector means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
VIRGINIA MANOHARAN  
PRIMARY EXAMINER  
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